

REMARKS

This amendment is filed in response to the non-final Office Action of July 25, 2008.  
Claims 1, 3, 5, and 6 have been amended.

Regarding the obviousness rejection of claims 1-6 and 16-33, neither reference shows or suggests that the consecutive frames encoded interdependently to exploit correlations between audio samples with respect to neighborhood frames for increased compression performance and reduced memory requirements, saving the internal state of the audio decoder before starting to decode the frame including the start of the loop section, or that each repeated decoding of the loop section starts from the saved internal state so that instead of starting with an internal state of the decoder at the end of the loop section, each repeated decoding of the loop section starts with a same correlation with respect to neighborhood frames, so as to always resemble a same stationary waveform in the playback.

The Examiner is respectfully reminded of the paragraph at page 4, line 32 through page 5, line 26 corresponding to published paragraph 0012 and 0013 on pages 1 and 2 of the published application US 2005/0114136 where it is pointed out that decoding the loop section several times in a row during playback is difficult in the prior art because of the evolving internal state of the decoder. Such cause a problem when replayed because the internal state of the decoder at the end of the loop will have evolved during the decoding of the loop from start to end and using the internal state at the end as the basis for correlations back at the beginning will cause the desired stationary waveform to end up being different during each repetition during playback.

Moreover, *Wiggins*, even if it did have the kind of evolving state such as found in a state-of-the-art decoder, which is not admitted, there is no hint or suggestion in *Wiggins* to store (b) same and (d) restore the stored state in combination with (a) and (c) of *Cole*. The motivation provided by the Examiner, i.e., to further reduce the data rate, is not a sufficient motivation to one of skill in the art to combine the two references to enable such a person to *realize* the advantage of the combination, i.e., to solve the problem of the prior art of starting to decode the loop in such a way as to cause the supposedly stationary waveform to be different each time.

If the nature of the problem to be solved is examined, it is found to be twofold. One is the difficulty in utilizing advanced audio coders wherein the decoding process cannot be carried out independently for each sample on account of their exploitation of the correlation between audio samples in order to achieve high-compression. As a consequence, the decoded sample

values delivered by such a decoder depend not only on the input encoded stream of data but also on an internal state of the decoder which evolves during the decoding process. Because of this, a repetitive decoding of a loop section is no longer a trivial matter, since the state of the decoder at the end of the loop is different from its state at the beginning of the loop.

The other, more important difficulty lies in utilizing advanced compression schemes. The difficulty arises from the fact that most of these schemes perform the encoding and decoding operations on a frame-by-frame basis, wherein a frame comprises one or more consecutive audio samples. Any manipulation of an encoded wavetable comprising attack and loop sections must therefore take into consideration that the decoder can provide only an integer number of decoded audio frames at a time. For example, the loop section of a wavetable might be distributed into several frames, and, in addition, it might be too long to be stored entirely in the decoded form into the memory. Consequently, in such a case it is necessary to decode the frames composing the loop section several times in a row as required during playback. Delivering the same decoded loop waveform every time, however, is rendered difficult by the evolving internal state of the decoder.

The *Wiggins* reference does not provide any hint or suggestion first of all of the existence and secondly on how to solve such a problem or that a combination with a prior art reference such as *Cole*, should be attempted to solve such a problem.

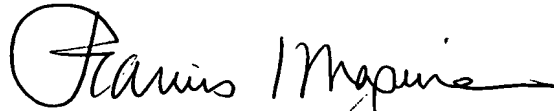
The present inventors did not invent looping and while looping allows the reduction of the memory requirements for wavetable synthesis, the problem solved by the first aspect of the present invention has to do with the matter of looping itself where side effects due to looping discontinuities need to be avoided. See page 3, lines 13-16 corresponding to paragraph 8 of published application US 2005/0114136.

Withdrawal of the obviousness rejection of claims 1-6 is requested. The dependent claims 16-33 are nonobvious for at least the same reasons.

Applicant does not believe that any additional claim fee is due. If this belief is incorrect, the Commissioner is authorized to deduct the extra claims fee from our Deposit Account No. 23-0442. In case a petition for extension of time has been overlooked, the Commissioner is requested to consider this paper to be a petition for the appropriate extension period and is authorized to deduct the appropriate extension fee from our Deposit Account No. 23-0442.

The objections and rejections of the Office Action of July 25, 2008, having been obviated by amendment or shown to be inapplicable, withdrawal thereof is requested and passage of claims 1-6 and 16-33 to issue is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Francis J. Maguire", written over a horizontal line.

Francis J. Maguire  
Attorney for the Applicant  
Registration No. 31,391

WARE, FRESSOLA, VAN DER SLUYS  
& ADOLPHSON LLP  
Bradford Green, Building Five  
755 Main Street, P.O. Box 224  
Monroe, CT 06468  
Telephone: (203) 261-1234  
Facsimile: (203) 261-5676  
USPTO Customer No. 004955